DEPARTMENT OF THE ARMY TECHNICAL MANUAL

OPERATOR AND ORGANIZATIONAL MAINTENANCE REPAIR PARTS AND SPECIAL TOOLS LIST AND MAINTENANCE ALLOCATION CHART, RECEIVER, RADIO R–508/ARC

Headquarters, Department of the Army, Washington 25, D. C.

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SECTION I

INTRODUCTION

1. Scope

a. This manual includes an operator's maintenance repair parts and special tools list, an organizational maintenance repair parts and special tools list, and a maintenance allocation chart.

b. The operator's maintenance repair parts and special tools list lists items supplied for initial operation and for running spares. The list includes accessories, parts, and material issued as part of the major end item. All items authorized for basic operator maintenance of the equipment are also listed.

c. The organizational maintenance repair parts and special tools list lists the quantities of repair parts authorized for organizational maintenance and is a basis for requisitioning by organizations which are authorized the major item of equipment. End items of equipments are issued on the basis of allowances

*This manual supersedes TM 11–5821–211–12P, 20 July 1959, including C1, 13 April 1960.

prescribed in equipment authorization tables and other documents that are a basis for requisitioning.

d. The maintenance allocation chart assigns maintenance functions and repair operations to be performed by the lowest appropriate maintenance echelon.

e. Columns are as follows:

(1) *Source, maintenance, and recoverability code.* Not used.

(2) *Federal stock number.* This column lists the 11-digit Federal stock number.

(3) *Designation by model.* Not used.

(4) *Description.* Nomenclature or the standard item name and brief identifying data for each item are listed in this column. When requisitioning, enter the nomenclature and description on the requisition.

(5) *Unit of issue.* The unit of issue is the supply term by which the individual item is counted for procurement, storage, requisitioning, allowances, and issue purposes.

(6) *Expendability.* Expendable items are indicated by the letter X; nonexpendable items are indicated by NX.

(7) *Quantity authorized.* Under "Items Comprising an Operable Equipment" the column lists the quantity of items supplied for the initial operation of the equipment. Under "Running Spares and Accessory Items" the quantities listed are those issued initially with the equipment as spare parts. The quantities are authorized to be kept on hand by the operator for maintenance of the equipment.

(8) *Quantity incorporated in unit.* This column lists the quantity of each part found in a given assembly, component, or equipment.

(9) *Organizational.* The quantities indicated in this column are maximum levels of repair parts authorized to be kept on hand by units performing organizational maintenance. The quantities are based on 100 equipments to be maintained for a 15-day period.

(10) *Illustration.* The "Item No." column lists the reference designations used for identification of the items in the illustration or text of the manual.

2. Parts for Maintenance

When this equipment is used by signal service organizations organic to the theater headquarters or communication zones to provide theater communications, those repair parts authorized up to and including fourth echelon are authorized for stockage by the organization operating this equipment.

3. Critical Items

A zero slash (Ø) in the "Description" column indicates items that are expected to fail during the first year; also items that will make the equipment inoperative if they fail.

4. Additional Repair Parts

Additional repair parts which may be required for performing organizational maintenance, but are not authorized for stockage in the prescribed load are identified by an asterisk (*) and are to be requisitioned as required, for immediate use only. Refer to AR 700–18.

5. References

Additional instructions concerning maintenance of this equipment are contained in TM 11–6125–206–12P, Operator, Organizational Maintenance Repair Parts and Special Tools List and Maintenance Allocation Chart for Dynamotor DY–86/ARN–30.

6. Comments or Suggestions

Any comments concerning omissions and discrepancies in this manual will be prepared on DA Form 2028 and forwarded direct to Commanding Officer, U. S. Army Signal Materiel Support Agency, ATTN: SIGMS–MLM, Fort Monmouth, N. J.

SECTION II. FIRST ECHELON FUNCTIONAL PARTS LIST

(1) SOURCE MAINTENANCE AND RECOVERABILITY CODE	(2) FEDERAL STOCK NUMBER	(3) DESIGNATION BY MODEL	(4) DESCRIPTION	(5) UNIT OF ISSUE	(6) EXPENDABILITY	(7) QUANTITY AUTHORIZED	(8) ILLUSTRATIONS FIGURE NO.	(9) ILLUSTRATIONS ITEM NO.
			ITEMS COMPRISING AN OPERABLE EQUIPMENT					
			RECEIVER, RADIO R-508/ARC					
	5821-503-1517		RECEIVER, RADIO R-508/ARC:	ea	NX			
	Ord thru AGC		TECHNICAL MANUAL TM 11-5821-211-12P	ea	X	2		
	6125-610-1055		DYNAMOTOR DY-86/ARN-30:	ea	NX	1		
			RUNNING SPARES AND ACCESSORY ITEMS					
			RECEIVER, RADIO R-508/ARC					
			NO PARTS AUTHORIZED FOR STOCKAGE AT FIRST ECHELON					

SECTION III. SECOND ECHELON FUNCTIONAL PARTS LIST

(1) SOURCE MAINTENANCE AND RECOVERABILITY CODE	(2) FEDERAL STOCK NUMBER	(3) DESIGNATION BY MODEL	(4) DESCRIPTION	(5) UNIT OF ISSUE	(6) EXPENDABILITY	(7) QUANTITY INCORPORATED IN UNIT	(8) ORGANIZATIONAL 15 DAYS MAINTENANCE ALLOWANCE PER 100 EQUIPMENTS 2ND	(9) ILLUSTRATIONS FIGURE NO.	(10) ILLUSTRATIONS ITEM NO
			RECEIVER, RADIO R-508/ARC						
	5821-503-1517		RECEIVER, RADIO R-508/ARC:	ea	NX				
	5950-351-3539		CAP, ELECTRICAL: 0.593 in lg x 0.375 in dia	ea	X	1	*		0302
	5935-351-3535		COVER, ELECTRICAL CONNECTOR: 0.250 in lg x 1.219 in dia; ARC part No. 14588-1-A	ea	X	1	*		0301
	6125-610-1055		DYNAMOTOR DY-86/ARN-30	ea	NX	1	*		
	5920-131-9915		Ø FUSE FU-11: MIL type FO4A20R04 (Use in Serial No. 1 to 779, not required in serial No. above 779)	ea	X	1	*		F301
	6240-179-1811		Ø LAMP LM-54: (Use in Serial No. 1 to 779; replaced by TY301 in Serial No. above 779)	ea	X	1	*		V310

SECTION IV

MAINTENANCE ALLOCATION

7. General

a. This section assigns maintenance functions and repair operations to be performed by the lowest appropriate maintenance echelon.

b. Columns in the Maintenance Allocation Chart are as follows:

(1) *Part or component.* This column shows only the nomenclature or standard item name. Additional descriptive data are included only where clarification is necessary to identify the part. Components and parts comprising a major end item are listed alphabetically. Assemblies and subassemblies are in alphabetical sequence with their components listed alphabetically immediately below the assembly listing.

(2) *Maintenance function.* This column indicates the various maintenance functions allocated to the echelon capable of performing the operation.

(*a*) *Service.* To clean, to preserve, and to replenish fuel and lubricants.

(*b*) *Adjust.* To regulate periodically to prevent malfunction.

(*c*) *Inspect.* To verify serviceability and to detect incipient electrical or mechanical failure by scrutiny.

(*d*) *Test.* To verify serviceability and to detect incipient electrical or mechanical failure by use of special equipment such as gages, meters, etc.

(*e*) *Replace.* To substitute serviceable assemblies, subassemblies, and parts for unserviceable components.

(*f*) *Repair.* To restore to a serviceable condition by replacing unserviceable parts or by any other action required utilizing tools equipment, and skills available, to include welding, grinding, riveting, straightening, adjusting, etc.

(*g*) *Align.* To adjust two or more components of an electrical system so that their functions are properly synchronized.

(*h*) *Rebuild.* To restore to a condition comparable to new by disassembling the item to determine the condition of its component parts and reassembling it using serviceable, rebuilt, or new assemblies, subassemblies, and parts.

(3) *1st, 2d, 3d, 4th, 5th echelon.* The symbol X indicates the echelon responsible for performing that particular maintenance operation, but does not necessarily indicate that repair parts will be stocked at that level. Echelons higher than the echelon marked by "X" are authorized to perform the indicated operation.

(4) *Tools required.* This column indicates codes assigned to each individual tool equipment, test equipment, and maintenance equipment referenced. The grouping of codes in this column of the Maintenance Allocation Chart indicate the tool, test, and maintenance equipment required to perform the maintenance function.

(5) *Remarks.* Entries in this column are used to clarify any of the data cited in the preceding columns.

c. Columns in the allocation of tools for maintenance functions are as follows:

(1) *Tools required for maintenance functions.* This column lists tool and test equipments required to perform the maintenance functions.

(2) *1st, 2d, 3d, 4th, 5th echelon.* A dagger

(†) symbol indicates the echelons allocated the facility.

(3) *Tool Code.* This column lists the tool code assigned.

(4) *Remarks.* Entries in this column are used to clarify data in the other columns.

8. Maintenance by Using Organizations

When this equipment is used by signal service organizations organic to theater headquarters or communication zones to provide theater communications, those maintenance functions allocated up to and including fourth echelon are authorized to the organization operating this equipment.

9. Mounting Hardware

The basic entries of the maintenance allocation chart do not include mounting hardware such as screws, nuts, bolts, washers, brackets, clamps, etc.

MAINTENANCE ALLOCATION CHART

(1) PART OR COMPONENT	(2) MAINTENANCE FUNCTION	(3) 1ST ECH.	(4) 2ND ECH.	(5) 3RD ECH.	(6) 4TH ECH.	(7) 5TH ECH.	(8) TOOLS REQUIRED	(9) REMARKS
RECEIVER, RADIO R-508/ARC	service		X				6,12	
	inspect		X					
				X			13	
	test			X			1,2,5,7,8,9, 11,13	
						X	1,3,4,5,7,8,9, 10,13	
	replace		X				12	
	repair				X		13	
	align			X			1,2,7,8,9,13	
	rebuild					X	13	
ARRESTER, ELECTRICAL SURGE	replace			X				
BRACKET	replace			X				Fabricate at 5th echelon
	repair				X			
CAP	replace			X				
CAPACITOR	replace			X				
CAPACITOR ASSEMBLY	replace			X				
COIL ASSEMBLY	replace				X			
COIL, RADIO FREQUENCY	replace			X				
CONNECTOR	replace			X				
COVER	replace			X				Fabricate at 5th echelon
	repair				X			
DYNAMOTOR DY-86/ARN-30	service		X				6,12	
	adjust		X				12	
	inspect		X				12	
				X			13	
	test			X			7,13	
						X	7,13	
	replace		X				12	"See Separate MAC"
	repair				X		13	

(1) PART OR COMPONENT	(2) MAINTENANCE FUNCTION	(3) 1ST ECH.	(4) 2ND ECH.	(5) 3RD ECH.	(6) 4TH ECH.	(7) 5TH ECH.	(8) TOOLS REQUIRED	(9) REMARKS
R-508/ARC (continued)								
ELECTRON TUBE	replace			X				
FUSE, CARTRIDGE	replace		X					
FUSEHOLDER	replace			X				
INSULATOR, STANDOFF	replace			X				
JACK, TELEPHONE	replace			X				
LAMP LM-54	replace		X					
MOUNT, VIBRATION	replace			X				
PRESELECTOR SUB-ASSEMBLY	replace			X				
CAPACITOR, VARIABLE	replace				X			
COIL SUB-ASSEMBLY	replace				X			
CAPACITOR	replace				X			
COIL, RADIO FREQUENCY	replace				X			
PLATE, MOUNTING	replace			X				
	repair				X			
CONNECTOR	replace			X				
ELECTRON TUBE	replace			X				
RESISTOR	replace				X			
SOCKET, ELECTRON TUBE	replace				X			
REACTOR	replace			X				
RESISTOR	replace			X				
RING, RETAINER	replace			X				
SHIELD, COIL	replace			X				
SOCKET, ELECTRON TUBE	replace			X				
TERMINAL BOARD	replace					X		Fabricate at 5th echelon
TERMINAL, LUG	replace			X				
TRANSFORMER	replace			X				
WASHER	replace			X				

ALLOCATION OF TOOLS FOR MAINTENANCE FUNCTIONS

(1) TOOLS REQUIRED FOR MAINTENANCE FUNCTIONS	(2) 1ST ECH.	(3) 2ND ECH.	(4) 3RD ECH.	(5) 4TH ECH.	(6) 5TH ECH.	(7) TOOL CODE	(8) REMARKS
R-508/ARC (continued)							
ELECTRONIC MULTIMETER TS-505/U			+	+	+	1	
FREQUENCY METER AN/URM-32			+			2	
FREQUENCY METER AN/URM-80				+	+	3	
FREQUENCY METER AN/URM-81				+	+	4	
MAINTENANCE KIT, ELECTRONIC EQUIPMENT MK-157/GRM			+	+	+	5	
MULTIMETER TS-297/U		+				6	To be used until Multimeter AN/URM-105 becomes available
MULTIMETER TS-352/U			+	+	+	7	To be used until Multimeter AN/URM-105 becomes available
POWER SUPPLY PP-1243/U			+			8	
SIGNAL GENERATOR TS-497/URR			+	+	+	9	
TEST SET, ELECTRON TUBE TV-2/U					+	10	
TEST SET, ELECTRON TUBE TV-7/U			+	+		11	
TOOL EQUIPMENT TE-41		+				12	To be used until TK-87 becomes available
TOOL EQUIPMENT TE-113			+	+	+	13	To be used until TK-88 becomes available

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NG: State AG (3).
USAR: None.
For explanation of abbreviations used, see AR 320–50.

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